

What is claimed is:

1. A multiplanar conductive gasket material comprising:

a foam core;

at least one conductive web layer comprising a blended mixture of a plurality

5 of conductive and nonconductive fibers disposed on a first side of said
foam core;

a reinforcing fabric disposed on said foam core; and

a predefined quantity of said blended mixture of said plurality of conductive
and nonconductive fibers extending completely through said foam core

10 and said reinforcing fabric.

2. The conductive gasket material of Claim 1 further comprising a stiffener fabric
disposed between said at least one conductive web layer and said foam core.

15 3. The conductive gasket material of Claim 1 further comprising a second
conductive web layer disposed on said second side of said foam core.

4. The conductive gasket material of Claim 1 wherein said blended mixture of said
plurality of conductive and nonconductive fibers is heat set to minimize
20 conductive fiber movement.

5. The conductive gasket material of Claim 1 wherein said at least one conductive web material has a blend ratio in the range of about 1 to 1 to about 3 to 1 of said conductive fibers to said nonconductive fibers.

5 6. The conductive gasket material of Claim 1 wherein said at least one conductive web material has a blend ratio of at least 1 to 1 of said conductive fibers to said nonconductive fibers.

7. The conductive gasket material of Claim 2 wherein said plurality of conductive and nonconductive fibers is heat set to minimize conductive fiber movement. /

8. The conductive gasket material of Claim 7 wherein said heat set includes thermomolding said gasket material into a predefined shape.

15 9. The conductive gasket material of Claim 1 wherein said nonconductive fibers include adhesive fibers and flame retardant fibers.

10. The conductive gasket material of Claim 9 wherein said adhesive fibers are low-melting point fibers.

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10. The conductive gasket material of Claim 9 wherein said blended mixture of said conductive web layer has a conductive fiber, adhesive fiber and flame retardant fiber ratio of 65 percent to 20 percent to 15 percent.

5 11. The conductive gasket material of Claim 1 wherein said reinforcing fabric has a flame retardant coating disposed thereon.

12. The conductive gasket material of Claim 1 wherein said conductive fibers have a metal content in the range from about 18 percent to about 27 percent.

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13. The conductive gasket material of Claim 1 wherein said conductive fibers have a predetermined amount of metal content sufficient to provide a resistance of said conductive gasket material of about 10 milliohms when compressed in the range of about 50 percent or less.

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14. A method of forming a conductive gasket material comprising:
layering at least one conductive web layer comprising a blended mixture of
conductive fibers and nonconductive fibers onto a foam core;
layering a reinforcing fabric onto said foam core; and
20 needlepunching said conductive web layer, said reinforcing fabric and said
foam core forming a conductive composite gasket material having a

plurality of conductive fibers interspersed through said foam core and said reinforcing fabric.

5 **15.** The method of Claim 14 wherein said conductive web layering step includes layering a conductive web layer comprising a blended mixture of conductive fibers, low softening point fibers and flame retardant fibers.

16. The method of Claim 14 further comprising heating said conductive composite to the softening point of said nonconductive fibers.

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17. The method of Claim 14 further comprising layering a second conductive web layer onto an opposite side of said foam core.

15 **18.** The method of Claim 17 further comprising needlepunching said second conductive web layer and said foam core.

19. The method of Claim 14 further comprising layering a nonconductive web layer comprising nonconductive fibers between said at least one conductive web layer and said foam core before said needlepunching step.

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20. The method of Claim 19 further comprising thermoforming said conductive composite gasket material.

- 21.** The method of Claim 14 further comprising blending a plurality of conductive fibers and a plurality of nonconductive fibers forming said conductive web layer.
- 5 **22.** The method of Claim 21 wherein said blending step includes blending said plurality of conductive fibers and said plurality of nonconductive fibers in a blend ratio of about 1 to 1 to about 3 to 1 of conductive fibers to nonconductive fibers.
- 10 **23.** The method of Claim 21 wherein said blending step includes blending said plurality of conductive fibers and said plurality of nonconductive fibers in a blend ration of at least 1 to 1 of conductive fibers to nonconductive fibers.
- 15 **24.** The method of Claim 15 wherein said method further includes blending said mixture of fibers in a ratio of about 65% conductive fibers, about 20% low softening point fibers and about 15% flame retardant fibers.
- 20 **25.** The method of Claim 14 further comprising disposing a flame retardant coating over said reinforcing fabric.
- 20 **26.** The method of Claim 14 further comprising formulating said conductive fibers with a conductive metal content in a range of about 18% to about 27%.

- 27.** The method of Claim 14 further comprising formulating said conductive fibers with a predetermined amount of metal content sufficient to provide a resistance of said conductive gasket material of about 10 milliohms when compressed in the range of about 50 percent or less.